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**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Implement the  
Commission's Procurement Incentive Framework and to  
Examine the Integration of Greenhouse Gas Emissions  
Standards into Procurement Policies.

Rulemaking 06-04-009  
(Filed April 13, 2006)

**REPLY COMMENTS OF THE NATURAL RESOURCES DEFENSE COUNCIL  
(NRDC) ON THE PROPOSED "INTERIM OPINION ON PETITION TO  
MODIFY DECISION 07-01-039 WITH REGARD TO THE TREATMENT OF  
BOTTOMING-CYCLE COGENERATION"**

August 20, 2007

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OF THE STATE OF CALIFORNIA**

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**1. Introduction and Summary**

The Natural Resources Defense Council (NRDC) respectfully submits these reply comments, pursuant to Rules 14.3, 1.9, and 1.10 of the California Public Utilities Commission's (CPUC or Commission) Rules of Practice and Procedure, on President Peevey's proposed "Interim Opinion on Petition to Modify Decision 07-01-039 with Regard to the Treatment of Bottoming-Cycle Cogeneration" (Proposed Decision or PD). NRDC is a non-profit membership organization with a long-standing interest in minimizing the societal costs of the reliable energy services that a healthy California economy needs. In this proceeding, NRDC represents its more than 124,000 California members' interest in receiving affordable energy services and reducing the environmental impact of California's electricity consumption.

NRDC continues to strongly support the Proposed Decision, which rejects the petition for modification filed by the Energy Producers and Users Coalition and the Cogeneration Association of California (EPUC/CAC), as well as D.07-01-039, which adopted the rules for the greenhouse gas (GHG) emissions performance standard (EPS) required by Senate Bill (SB) 1368. NRDC strongly urges the Commission to adopt the PD with only a slight modification at its August 23, 2007 meeting.

In these comments, NRDC responds to comments on the PD filed by the Energy Producers and Users Coalition (EPUC) on August 13, 2007. EPUC's primary arguments against the PD are that bottoming- and topping-cycle cogeneration facilities operate differently and thus bottoming-cycle cogeneration facilities should receive different treatment since they produce carbon-neutral electricity; and that the cogeneration thermal crediting formula adopted in D.07-01-039 cannot be applied to bottoming-cycle cogeneration facilities. Both of these arguments are flawed. In summary:

- EPUC's claim that bottoming-cycle cogeneration facilities are carbon neutral is erroneous, and the PD correctly finds that the EPS should be applied to bottoming-cycle cogeneration facilities.
- Contrary to EPUC's claims, the thermal energy crediting formula adopted by D.07-01-039 *can* be applied to bottoming-cycle cogeneration facilities and thus should not be revised. NRDC suggests a further clarification to the application of the formula to bottoming-cycle cogeneration facilities.

**2. EPUC's claim that bottoming-cycle cogeneration facilities are carbon neutral is erroneous, and the PD correctly finds that the EPS should be applied to bottoming-cycle cogeneration facilities.**

EPUC claims that "the treatment to bottoming-cycle cogeneration and topping-cycle cogeneration must not be the same in the context of considering GHG emissions; they are distinctly different" (p. 3). NRDC does not dispute that the two kinds of cogeneration facilities operate differently and the production of electricity and use of thermal energy occurs in a different order in each of the two types of cogeneration. However, there are GHG emissions associated with *both* types of cogeneration facilities that generate electricity, and SB 1368 clearly requires that *all* baseload generation supplied to a load-serving entity under a long-term financial commitment must meet the EPS,<sup>1</sup> while also allowing for the crediting of thermal energy that is used in cogeneration

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<sup>1</sup> Public Utilities Code Section 8341(b)(1) states: "The commission shall not approve a long-term financial commitment by an electrical corporation unless *any* baseload generation supplied under the long-term financial commitment complies with the greenhouse gases emission performance standard established by the commission..." (emphasis added).

facilities.<sup>2</sup> There is no reason that “electricity from a bottoming-cycle cogeneration facility should be considered a carbon-free product,” as EPUC claims (p. 6). As long as electricity from the facility, assuming it is a “baseload” resource as defined by D.07-01-039, delivers electricity to a Californian load-serving entity under a financial commitment of five years or more, the facility *must* meet the EPS requirements. Thus, NRDC supports the PD’s Findings of Fact 1-3.

**3. Contrary to EPUC’s claims, the thermal energy crediting formula adopted by D.07-01-039 *can* be applied to bottoming-cycle cogeneration facilities and thus should not be revised. NRDC suggests a further clarification to the application of the formula to bottoming-cycle cogeneration facilities.**

Although EPUC/CAC has previously acknowledged that the cogeneration thermal credit formula calculation can be performed for bottoming-cycle cogeneration facilities,<sup>3</sup> EPUC again claims that the thermal conversion formula for cogeneration facilities adopted by D.07-01-039 “simply does not work for bottoming-cycle units and warrants revision” (p. 9). On the contrary, the formula *can* be applied to bottoming-cycle cogeneration facilities and should not be revised.

However, EPUC’s suggestion to further clarify the application of the formula for bottoming-cycle cogeneration facilities is reasonable. D.07-01-039 adopted the following formula to calculate the net emissions rate associated with cogeneration facilities:

$$\frac{\text{TOTAL GHG EMISSIONS FROM COGENERATION FACILITY}}{\text{KWH ELECTRICITY + BTU THERMAL ENERGY (expressed in kWh)}}$$

EPUC seems to misunderstand the formula, stating that “The denominator would be composed of the energy removed by the electricity generating process and the remaining thermal energy in the waste heat exhaust” (p. 9). Rather, the denominator consists of the sum of the electricity generated from the facility (in kWh) and the energy

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<sup>2</sup> Public Utilities Code Section 8341(d)(3).

<sup>3</sup> As cited in “Comments of the Natural Resources Defense Council (NRDC) on Petition to Modify Decision 07-01-039 with Regard to the Treatment of Bottoming Cycle Cogeneration,” May 25, 2007.

content (expressed in kWh) of the thermal energy that was in fact *used* to generate the electricity (not including any waste heat that is vented to the atmosphere). NRDC suggests that Ordering Paragraph 2 of the PD be modified as follows, in order to further clarify the application of the thermal crediting formula to bottoming-cycle cogeneration facilities:

2. Decision 07-01-039 is modified as follows:

a) The following language shall be added to footnote 140, which appears on page 107:

The numerator of the conversion formula for a bottoming-cycle cogeneration facility would reflect the total emissions from the facility, including both fuel used in the industrial process as well as any supplemental firing. The denominator of energy produced would ~~include~~ consist of the kWh of electricity produced by the facility, plus a thermal credit (through the 3,413 Btu/kWh standard conversion factor) for the thermal energy produced by the industrial process that is used for electricity generation in the waste heat boiler.

b) The following sentence shall be added to page 6 of Attachment 7 at the end of the second full paragraph under Section C. Cogeneration:

The denominator of energy produced would ~~include~~ consist of the kWh of electricity produced by the facility, plus a thermal credit (through the 3,413 Btu/kWh standard conversion factor) for the thermal energy produced by the industrial process that is used for electricity generation in the waste heat boiler.

In addition, in arguing against using the thermal conversion formula for bottoming-cycle cogeneration facilities, EPUC raises the issue of attribution of GHG emissions for cogeneration facilities between the electricity and industrial sectors. However, the thermal energy crediting formula is *only* to be used to determine compliance with SB 1368, as D.07-01-039 already made explicitly clear in Conclusion of Law 34, and does not prejudge attribution of GHG emissions of cogeneration facilities to different sectors or of the total emissions of the facilities, which will be addressed in the process of implementing Assembly Bill (AB) 32, the Global Warming Solutions Act.

#### 4. Conclusion

NRDC strongly urges the Commission to adopt the PD, with the slight modification suggested herein, without delay in order to continue implementing SB 1368.

Dated: August 20, 2007

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Audrey Chang". The signature is fluid and cursive, with the first name "Audrey" written in a larger, more prominent script than the last name "Chang".

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## CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the **“Reply Comments of the Natural Resources Defense Council (NRDC) on the Proposed ‘Interim Opinion on Petition to Modify Decision 07-01-039 with Regard to the Treatment of Bottoming-Cycle Cogeneration’” in the matter of R.06-04-009** to all known parties of record in this proceeding by delivering a copy via email or by mailing a copy properly addressed with first class postage prepaid.

Executed on August 20, 2007 at San Francisco, California.



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